

**Arguments to be Considered by Pre-Appeal Brief Conference Panel**

**A. Rejection of Claims 1-7, 9-12, 15-23, 25-28, 31, and 32**

Claims 1-7, 9-12, 15-23, 25-28, 31, and 32 are rejected under 35 USC §103 as being unpatentable over Tan et al., (US 6,226,323), in view of Batruni, (US 5,297,166) and further in view of Agazzi et al., (US 6,304,598). This rejection under 35 U.S.C. §103 is respectfully traversed.

While it is suggested that Tan et al. '323 describes a procedure to anticausally filter tentative decisions, it does not causally filter tentative decisions. Rather, the system of Tan et al. '323 causally filters final (non-tentative) decisions. In column 24, lines 38-51, Tan et al. '323 explains that the decisions made during the most recent N time frames are tentative (i.e. non-final) because the surviving paths are not common, while the decisions made more than N time frames ago are final (non-tentative) because the surviving paths have common branches; this fact is well known to someone skilled in the art. In column 25, lines 4-20, Tan et al. '323 suggests that the N tentative decisions are processed by the second filter anticausally, while M+1 final decisions are processed by the second filter causally. Thus, Tan et al. '323 does not causally filter tentative decisions. Moreover, Tan et al. '323 does not use a previous a block of tentative decisions from a previous pass according to second filter parameters to generate a second-filtered data so as to produce an estimate of the intersymbol interference

Note Batruni '166 teaches using an adaptive filter 12 to make produce a decision  $X'(Z)$ . Note the adaptive filter 12 receives as input an input signal  $S'(Z)$  and  $e(Z)$ . Note these input signals are not associated with a previous pass because the inventors would have explicitly shown these input signals as being  $S'(Z-1)$  and  $e(Z-1)$ , associated with a previous pass. All the independent claims recite tentative decisions from a previous pass. Batruni '166 clearly does not teach or suggest such a limitation.

Agazzi et al. '598 describes a filter arrangement 58 used in producing ISI signals using a feedback filter 100 which receives as input a final decision 72 from a current pass. There is no mention in Agazzi et al. '598 that the final decision 72 is associated with a previous pass. All the independent claims recite "a second linear filter for causally and anticausally filtering said **block**

*of tentative decisions from a previous pass according to second filter parameters to generate said second-filtered data so as to produce an estimate of the intersymbol interference.”*

Also, Applicants question the Examiner’s motivation for combining the references of Tan et al. ‘323, Batruni ‘166, and Agazzi et al. ‘598. Tan et al. ‘323 describes a system using QAM, Batruni ‘166 describes performing blind mode decision feedback equalization with reduced convergence, and Tan et al. ‘323 describing reducing power consumption with a communication system having a plurality of adaptive filters. Applicants find the purpose of use underlying each of these references to be contrary to the other. QAM configuration of Tan et al. ‘323 mostly likely will never perform blind mode decision feedback equalization of Batruni ‘166 because of its configuration. Moreover, one of ordinary of skill in the art would never apply the power dissipation technique of Agazzi et al. ‘598 to systems disclosed in Tan et al. ‘323 or Batruni ‘166. Such combination could never be practicable in addition to not meeting the recited claim language.

Therefore, Tan et al. ‘323, Batruni ‘166, and Agazzi et al. ‘598 does not render obvious independent claims 1, 11 15, 17, 27 and 31 respectively.

With respect to dependent claims 2-7, 9-10, 12, 16, 18-23, 25-26, 28, and 32, the Applicants, for the sake of brevity, will not address the reasons supporting patentability for this individual dependent claim, as these claims depend directly from the allowable independent claims 1, 11 15, 17, 27 and 31 for the reasons set forth above. The Applicants reserve the right to address the patentability of these dependent claims at a later time, should it be necessary.

In view of all the reasons set forth above, the Pre-Appeal Brief Conference Panel is respectfully requested to reconsider and instruct the Examiner to withdraw the present rejection under 35 U.S.C. §103.

#### **B. Rejection of Claims 8, 13, 14, 24, 29, and 30**

Claims 8, 13, 14, 24, 29, and 30 are rejected under 35 USC §103 as being unpatentable over Tan et al. ‘323, Batruni ‘166, and Agazzi et al. ‘598 and further in view of Meehan, (U.S. 6,115,419). This rejection under 35 U.S.C. §103 is respectfully traversed.

Claims 13 and 29 have similar limitations as claims 1 and 17, respectively. However, claims 13 and 29 further recite that the first and second filter parameters are based on an estimate of the channel parameters. In addition, the received data comprises a plurality of received

signals received over the plurality of data channels, and the equalizer further comprises a plurality of the first filter corresponding to the plurality of channels.

The arguments provided herein regarding claims 1 and 17 are also applicable to claims 13 and 29. Moreover, Applicants disagree that it would be obvious to have a plurality of data channels given Tan et al. '323, Batruni '166, and Agazzi et al. '598 deficiencies with respect to removing intersymbol interferences (ISI) in a nonlinear manner. Furthermore, Meehan '419 does not address the deficiencies of Tan et al. '323, Batruni '166, and Agazzi et al. '598. Therefore, Applicants contend that the combination of Tan et al. '323, Batruni '166, Agazzi et al. '598, and Meehan '419 does not render obvious claims 13 and 29 because the deficiencies of Tan et al. '323, Batruni '166, and Agazzi et al. '598 argued with respect to claims 1 and 17 are not obvious to one of ordinary skill.

With respect to dependent claims 14 and 30, the Applicants, for the sake of brevity, will not address the reasons supporting patentability for this individual dependent claim, as these claims depend directly from the allowable independent claims 13 and 29 for the reasons set forth above. The Applicants reserve the right to address the patentability of these dependent claims at a later time, should it be necessary.

Claims 8 and 24 are dependent on claims 1 and 17, and incorporate the limitations of claims 1 and 17, respectively. Meehan '419 does not address the deficiencies argued with respect to Tan et al. '323, Batruni '166, and Agazzi et al. '598 in claims 1 and 17. Thus, the combination of Tan et al. '323, Nguyen '872, and Meehan '419 does not render claims 8 and 24 obvious.

Accordingly, in view of all the reasons set forth above, the Pre-Appeal Brief Conference Panel is respectfully requested to reconsider and instruct the Examiner to withdraw the present rejection under 35 U.S.C. §103.

**CONCLUSION**

In view of all the reasons set forth above, the Pre-Appeal Brief Conference Panel is respectfully requested to reconsider and instruct the Examiner to withdraw the present rejections, and to allow pending claims 1-32.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Matthew E. Connors", written over a horizontal line.

Matthew E. Connors  
Registration No. 33,298  
Gauthier & Connors LLP  
225 Franklin Street, Suite 2300  
Boston, Massachusetts 02110  
Telephone: (617) 426-9180  
Extension 112

MEC/pss